Impacts of Fishery Activities on Lake shore Environment and Options for Sustainable Management

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Abstract

Over the years, degradation of the lakeshore resources has been going on due to human induced activities. Human activities notably house construction, fish smoking, boat construction and cooking at the landings impact the tree and forest cover along the lakeshore and Islands. The survey was conducted in ten districts surrounding Lake Victoria and the landings sampled were selected with the help of the District Fisheries Officers. Data was obtained from selected fishermen and Key informants at these landing sites. The study examined the extent of knowledge on importance, utilization, threats and conservation of trees/forests at the landings.

Results showed that the fishers (98%) were aware of the benefits derived from the trees/forests. According to the respondents, the most commonly used tree species for boat construction were Mvule (40%), Mkibu (20%), Musizi (17%) and Mpewere (11%). This was mainly because these trees were durable. For house construction, Nsambya (25%), Musizi (24%) and other materials (12%) were the most commonly used. For other activities like fish smoking and cooking at the landing, the Fisherfolk used any type of tree species readily available at the landings.

As regards the status of the trees at the landings, most of the respondents (72%) agreed that due to some fishery related activities some tree species had reduced more than others in the vicinity of most landings. Most respondents said that the most reduced tree species around the landings were Mvule (36%) and Musizi (22%). Among the fishery related activities that had a significant impact on the trees/forests, construction of houses (44%) and boats (22%) emerged uppermost. Other activities such as fish smoking (14%) and cooking (12%) had the least impact on trees/forests.

Generally, there was extensive reduction of trees at the landings. Therefore there was need to regulate cutting of trees and to have specific programmes targeting afforestation at and around fish landings.

Introduction

Over the years, there have been changes in the lake environment and the surrounding areas. Most of these changes have mainly been due to human activities. Many people are making use of the lake resources and other resources from the surrounding areas. Among the resources being used, trees/forests are some of the resources that are most commonly used. Other resources include; the fish resource, shrubs, grass and shoreline wetlands. The purpose of this paper was

to examine the impact of the fishery activities on tree/forests at the landings and recommend on how the fisher folk and fishery administrators can, together participate in the management of the forests at the landings to bring about sustainable benefits to the fishing communities. This specifically examined the extent of knowledge of fishers towards the benefits derived from trees and forests, utilization, threats and conservation of the trees by the fishing communities at the landings.

Methodology

The survey was conducted in all the ten districts bordering Lake Victoria, Uganda and these districts were categorized as "Big", "Medium" and "Small". The Big districts took 60% of the total sample size, the Medium districts 25% and the Small districts15%. A total of 1,500 questionnaires were administered in all the ten districts bordering the lake. Based on the allocations, the number of interviews done in each district is given in table 1. Within each district, the landings were categorized into Big, Medium and Small and the same portions applied to allocate interviews between them. Within each category, a random sampling technique was applied to select the landings to be visited. Similarly, within each landing, the respondents were also categorized according to the type of fishery activities. Within each type, random sampling was applied to identify the respondents that were interviewed.

Table 1. Categorization of Sampling Districts and Allocation of Interviews

Big Districts. (60%)	**Medium Districts.** (25%)	**Small Districts.** (15%)
Kalangala (225)	Masaka (188)	Busia (57)
Mukono (225)	Bugiri (188)	Rakai (57)
Mpigi (225)		Jinja (57)
Iganga (225)		Kampala (57)

Results

Knowledge on the Importance of the resource

Results showed that the fishers were aware of the benefits derived from trees and forests.

About 94% of the respondents agreed that trees and forests were necessary for controlling soil erosion. Some 98% agreed that trees and forests were also necessary for food production by moderating weather, provision of fruits and firewood.

In addition, about 99% of the respondents consented that trees and forests were important for house construction and boat making.

where there is no clear owner or steward of the resource .In this case anybody can use the resource regardless of the costs to the environment and society.

Lakeside resources are prone to degradation particularly because regulating use and extraction from them have been proven difficult. The magnitude and nature of the resources makes it almost impossible to hinder entry. Consequently everybody wants to extract rent or profit from the resource ahead of others until the resource is depleted.

In addition, poverty of fishing households has also contributed to resource degradation in that fishing income is variable and unreliable. Poverty is aggravated by the absence of alternative sources of livelihood due to absence of capital and limited opportunity as members of most fishing families have low educational attainment. These difficulties have led to further dependence of fishers on the lakeshore resources.

Therefore there is need to reverse the trend from degradation towards sustainable utilization by enhancing fishing community capability in management of the lakeshore resources through education and training. This goal will improve the knowledge, skills and attitude of fishing community members to enable them engage in resource management efforts, property and management arrangements.

With the recognition that poverty and structural problems do cause resource degradation, initiatives for resource protection and conservation have to be balanced with initiatives to address these other pressing issues in the fishing communities

Fig 1. Most commonly used tree species for boat construction

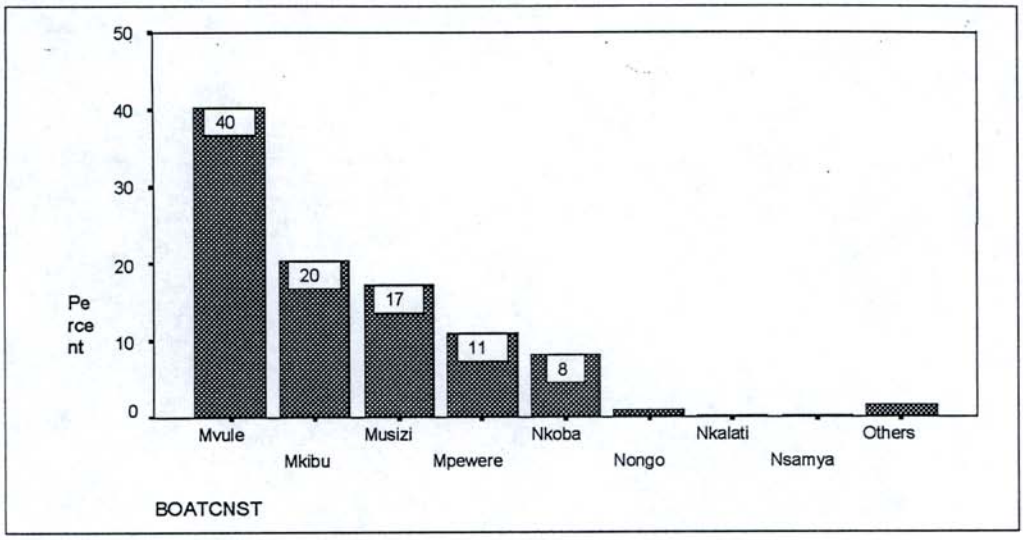


Fig 2. Why people use these trees

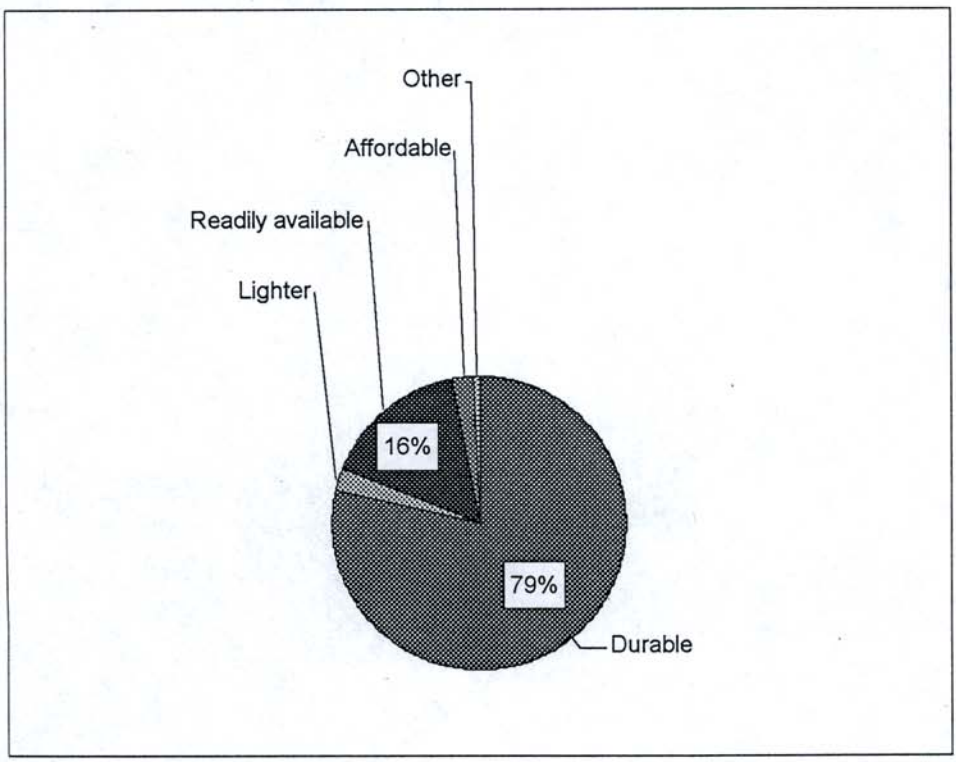


Fig 3 Most commonly used tree species for housing

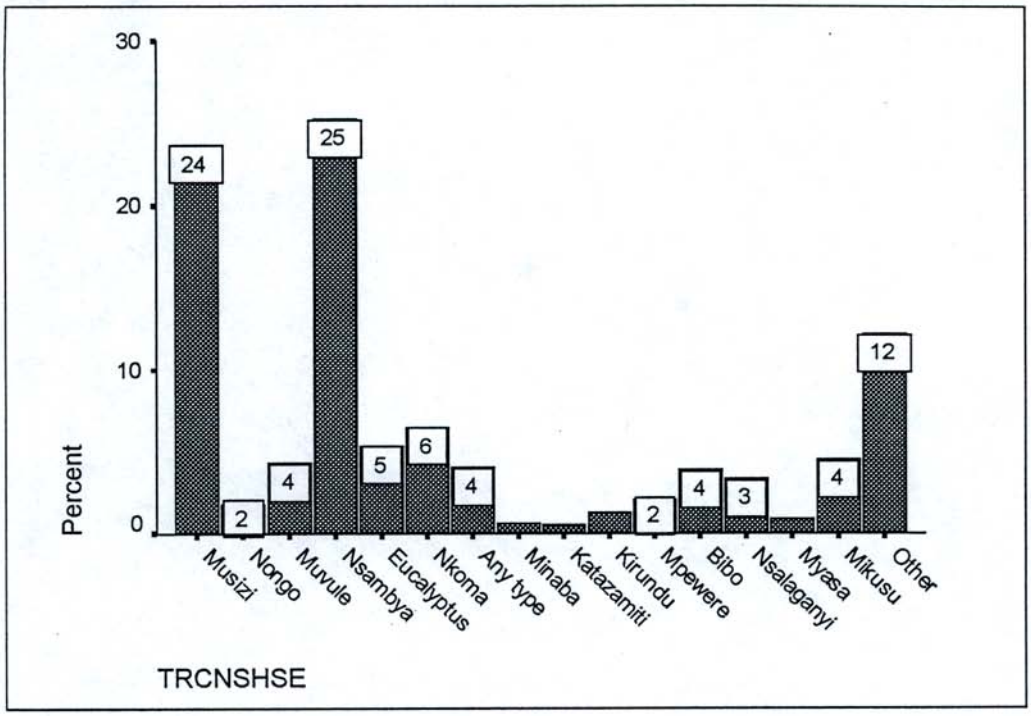


Fig 4. Most commonly used tree species for fish smoking

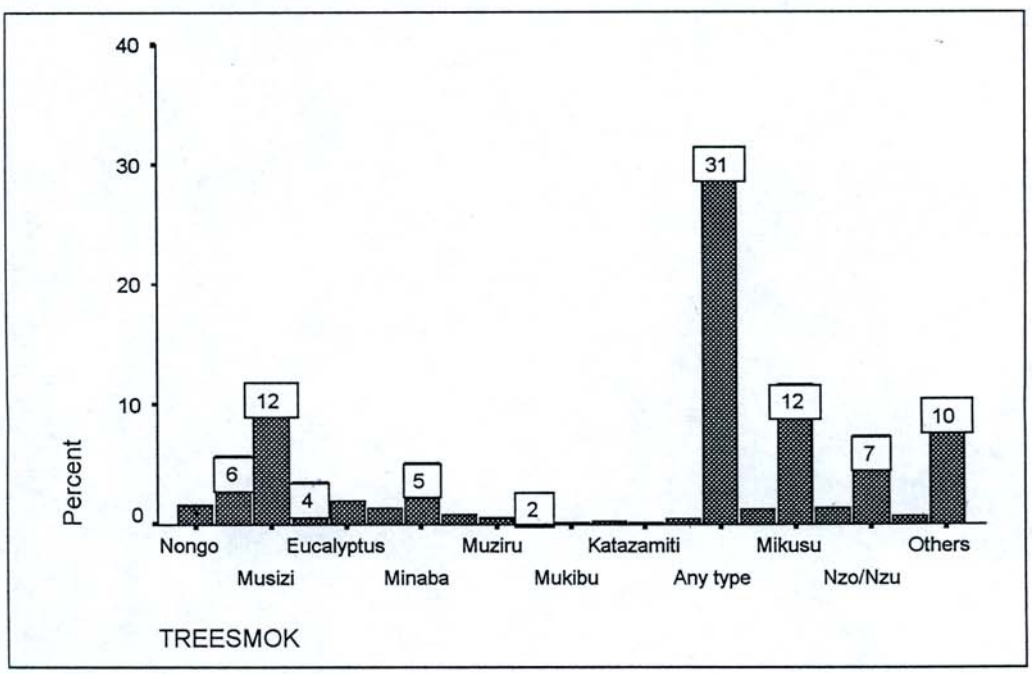


Fig 5. The most commonly used tree species for cooking

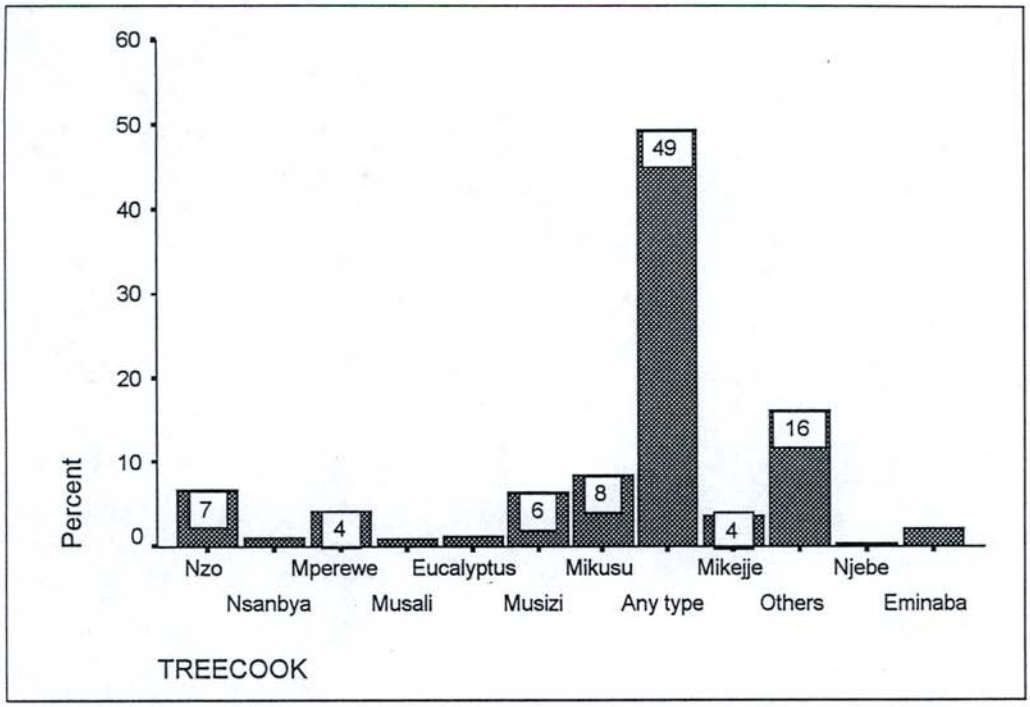


Fig 6. Threats to trees near landings--trees at the landings have reduced.

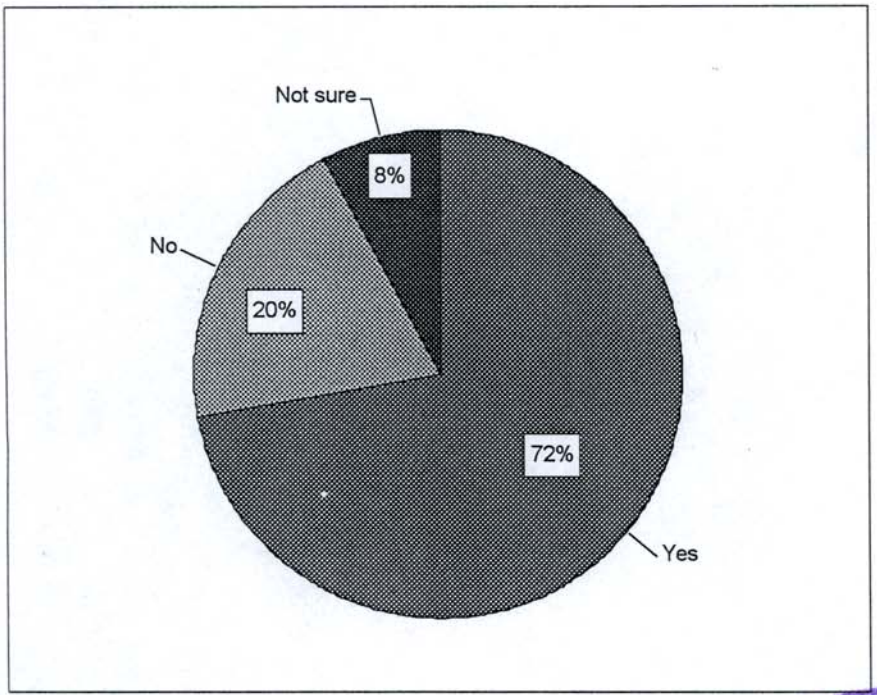


Fig 7. The most reduced tree species near the landing

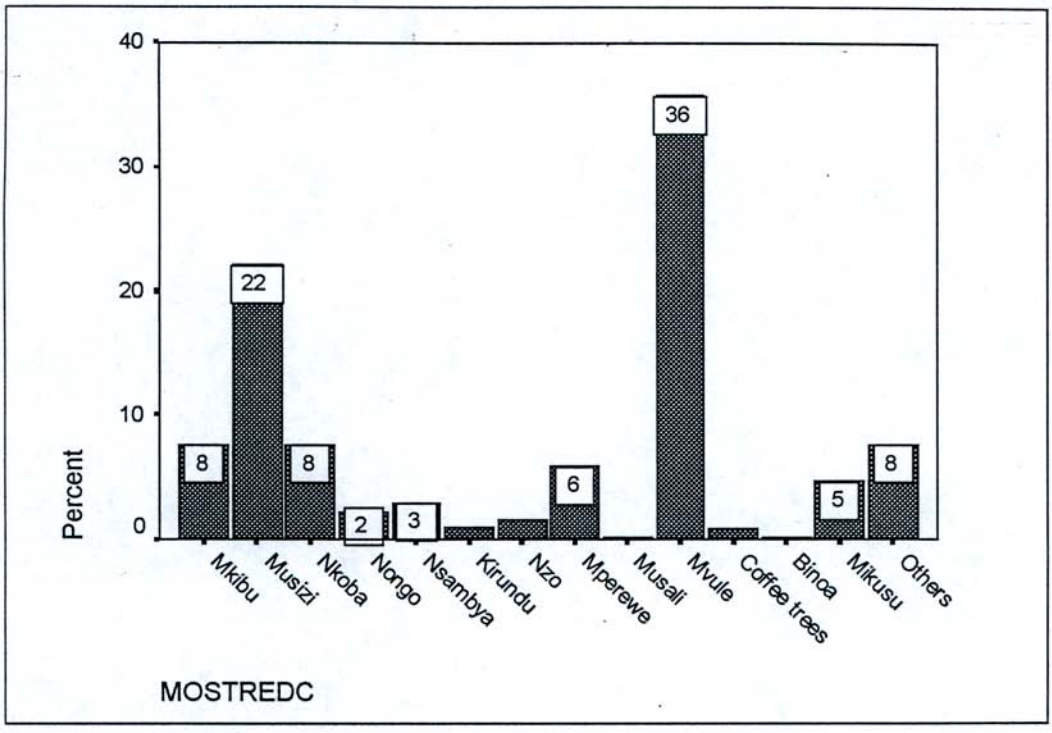


Fig 8. The fishery activity which had the greatest impact

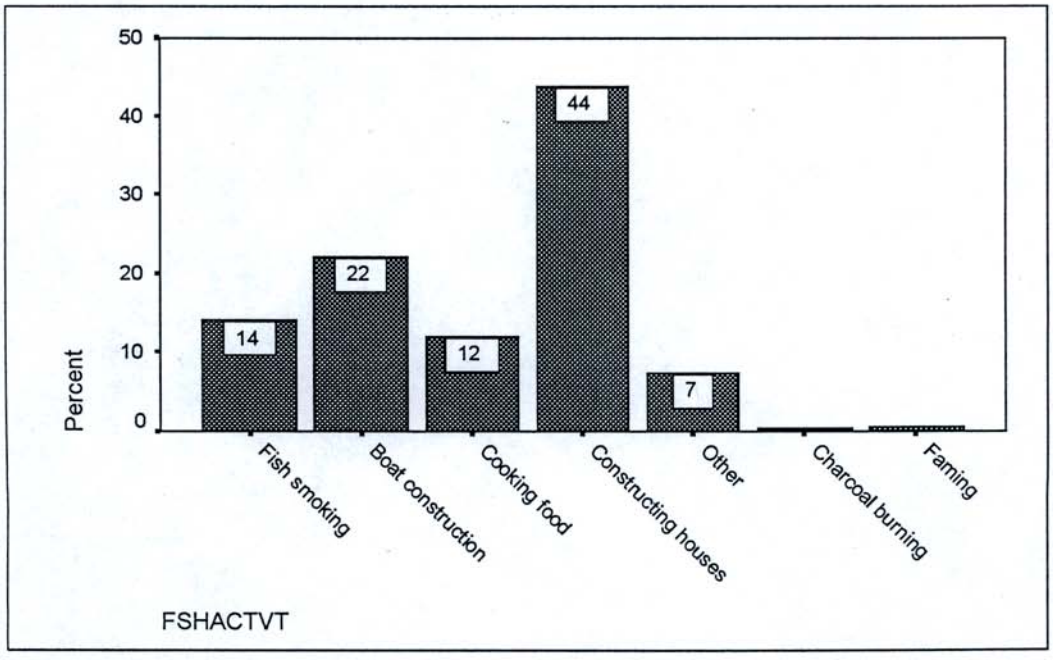
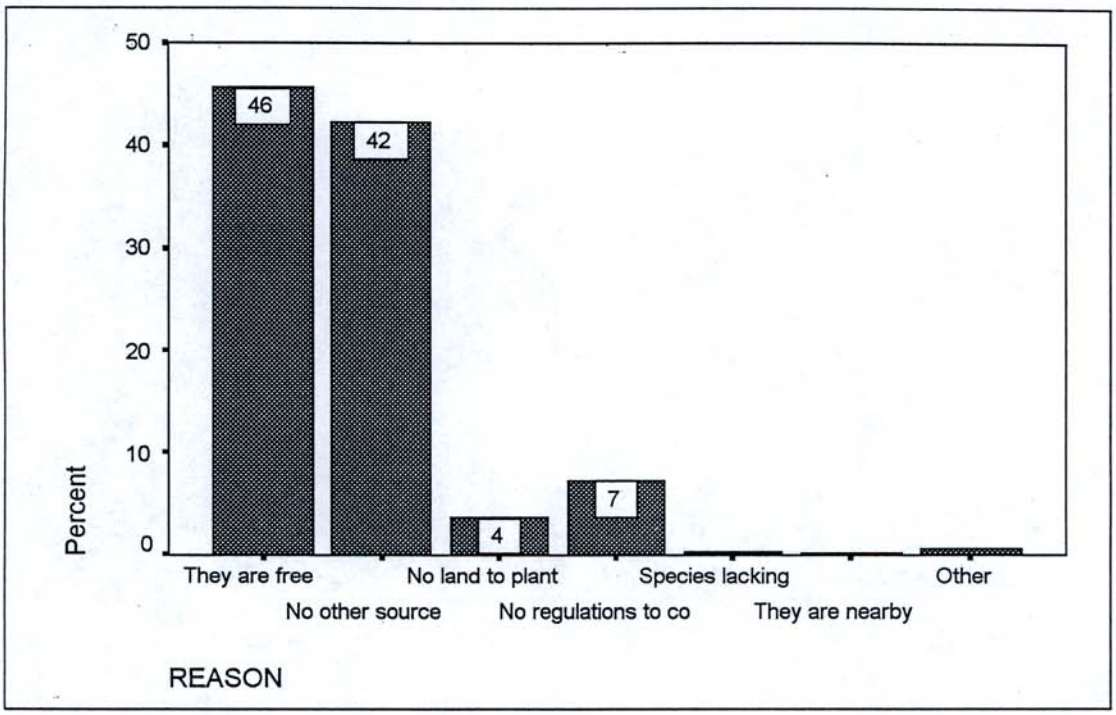


Fig 9. Reasons as to why people cut trees from public land.



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